



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,706	12/16/2003	Karl Schreiber	2560-0415	3451
23486 7590 08/11/2009 SHUTTLEWORTH & INGERSOLL, P.L.C. 115 3RD STREET SE, SUITE 500 P.O. BOX 2107 CEDAR RAPIDS, IA 52406				
EXAMINER				
HEINRICH, SAMUEL M				
ART UNIT		PAPER NUMBER		
3742				
NOTIFICATION DATE		DELIVERY MODE		
08/11/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

deanna@shuttleworthlaw.com

kathyi@shuttleworthlaw.com

uspto@shuttleworthlaw.com

Office Action Summary

Application No.

10/735,706

Applicant(s)

SCHREIBER ET AL.

Examiner

Samuel M. Heinrich

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-12 and 21-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,4-12 and 21-35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S5108)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____
- Paper No(s)/Mail Date ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 4-12, and 21-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, last paragraph, is "insufficient to 1) change a structure of the components; and 2) substantively change dimensions" supported in the original disclosure? One originally disclosed description at [0026] recites "change the structure of the components 1 and 2 or substantively change the dimensions". Support for the amendment must be provided.

All dependent claims contain the unclear language of claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4-12, and 21-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,407,119 to Churchill et al in view of Metals Handbook in view of USPN 6,223,976 to Clement et al in view of Applicant's Admitted Prior Art (AAPA).

Churchill et al describe (Abstract) laser brazing titanium. Churchill et al describe (column 4, line 63 through column 5, line 10) well known laser brazing of metal surfaces in order for "producing a high temperature, hermetic bond while limiting the HAZ to the region of the joint." Churchill et al describe (column 5, lines 37-41) "laser brazed to cylindrical titanium housings with minimal HAZ".

Metals Handbook describes (page 1064, column 1, last paragraph) "advantage laser brazing offers ... is its ability to produce a brazed connection locally without heating the entire part or component" and describes "advantage is the high degree of control of the thermal energy of laser beams, including intensity, spot size, duration, and ability to be located or positioned precisely."

Clement discloses (column 1, lines 27-34) the known process of laser joining, with or without filler material, of titanium aluminides.

AAPA comprises descriptions in the specification, such as Background of the Invention, and comprises the Information Disclosure Statements which comprise

documents pertaining to a variety of known joining processes for materials such as titanium aluminide.

The use of a laser joining process for joining titanium aluminide aligned to form a braze joint and with a filler deposited in the braze joint would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the joint layup is known in the art and because the laser joining has old and well known properties such as having a small heat affected zone (HAZ).

Applicant has recited numerous dependent limitations which read like a book description of joining processes. There are numerous well known books and handbooks which describe all of the well known joining process limitations set forth in the instant dependent claims. The use of well known joining process limitations such as workpiece shape as a sheet, braze gaps, butt joints, protective gas, temperature and pressure, braze construction, and backing bars would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the teachings are readily available to all students of joining.

Response to Arguments

Applicant's arguments with respect to claims 1, 4-12, and 21-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP410220236A describes soldering TiAl.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel M. Heinrich whose telephone number is 571-272-1175. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu B. Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Samuel M Heinrich/
Primary Examiner, Art Unit 3742